

Available online at www.sciencedirect.com**ScienceDirect**

Procedia - Social and Behavioral Sciences 191 (2015) 280 – 285

Procedia
Social and Behavioral Sciences

WCES 2014

Anti-Fat Attitudes And Weight Stereotypes: A Comparison Between Adolescents And Their Teachers

Maria Elvira De Caroli ^a*, Elisabetta Sagone ^a^a *Department of Educational Sciences, University of Catania, via Casa Nutrizione, 9512 Catania, Sicily, Italy*

Abstract

Purpose: the comparison between adolescents and their physical education teachers/trainers about anti-fat attitudes and weight stereotypes. Method: Anti-fat Attitudes and Dislike of Fat People Scale, Fat Stereotypes Questionnaire, and Semantic Differentials referred to Physical Self, Overweight, and Normal-weight People. Results: non-agonistic adolescents expressed higher levels of anti-fat attitudes than the others and curricular teachers showed higher levels of dislike for fat people than the others. Both positive and negative weight stereotypes were associated to fat people both by agonistic adolescents and physical education teachers/trainers. Agonistic adolescents expressed a more positive representation of normal-weight people and their physical self than the others. Lastly, the more the participants expressed high levels of anti-fat attitudes, the less they positively judged the representation of overweight people.

© 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Selection and peer-review under responsibility of the Organizing Committee of WCES 2014

Keywords: Anti-fat attitudes; weight stereotypes; agonistic adolescents; physical education teachers;

1. Introduction

A wide interest for the study of anti-fat attitudes and stereotypes referred to fat people has been demonstrated by a large amount of scholars who carried out their investigations in different socio-cultural countries, such as Crandall (1994), Cogan, Bhalla, Sefa-Dedeh, and Rothblum (1996), Morrison and O'Connor (1999), Bell and Morgan (2000), Tiggemann and Anesbury (2000), Musher-Eizenman and colleagues (2004), O'Brien, Hunter, and Banks (2007), Solbes and Enesco (2010), and Carels and Musher-Eizenman (2010). For example, as reported in Bell and Morgan's research (2000), children chose overweight target less than average-weight ones and wished to interact with them less than with average-weight ones. Furthermore, Musher-Eizenman et al. (2004) found that children

* Maria Elvira De Caroli. Tel.: +39-0952508021
E-mail address: m.decaroli@unict.it

tended to choose normal-weight or thin peers as best friends and playmates more frequently than overweight ones. In addition, older adolescents rated larger sized figures as more acceptable compared with elementary school children (Rand & Wright, 2000) and college students ranked drawings of overweight peers more favorably than did elementary school children (Latner, Stunkard, & Wilson, 2005). In a sample of physical education students, Greenleaf and her colleagues (2006) found that students selected more positive characteristics for the thin target and more negative characteristics for the fat target; female students showed a greater willingness to engage in social, academic, and recreational activities with the thin target than male ones. In relation to adulthood, findings of some studies indicated that the more the adults expressed anti-fat prejudice and propensity to judge the others in relation to their own physical appearance (Livingston, 2001), the more they tended to show negative attitudes toward overweight people (Peterson, Puhl, & Luedicke, 2012a). Additionally, people who think that weight was a controllable factor showed more negative attitudes toward obese adults than people who consider that weight was not a controllable factor (Carels & Musher-Eizenman, 2010). Also, as reported by fitness professionals and regular exercisers, tested by Robertson and Vohora (2008) using both implicit and explicit measures of anti-fat attitudes, fat people were judged worse and lazier than thin people. Concerning the weight stereotypes, children, adolescents, and adults displayed negative stereotypes toward fat people by attributing to them more negative traits and fewer positive traits (Greenleaf, Starks, Gomez, Chambliss, & Martin, 2004) than to thin and normal-weight people (Brochu & Morrison, 2007). Overweight teenagers were labelled more frequently as targets and victims of weight stereotyped beliefs expressed by their teachers and coaches during physical activity at school (Peterson, Puhl, & Luedicke, 2012b). Physical educators held negative stereotyped beliefs about overweight children's physical condition, self-concept and body image, and ability to play sports (Peters & Jones, 2010). The analysis of anti-fat attitudes and weight stereotypes from infancy to adulthood in Italian context (De Caroli, Sagone, & Licciardello, 2013; De Caroli & Sagone, 2013) indicated that younger children (6-8 years-old) expressed high levels of anti-fat prejudice and chose, more often than older ones (9-10 years-old), normal-weight peers as best friends and classmates and rejected to walk around and to play together with overweight peers. They attributed to overweight peers negative stereotyped traits, such as hungry, slow, and rejected by the others. Additionally, the more the children expressed high levels of anti-fat prejudice, the more they rejected to walk around and play together with overweight peers. Analyzing the findings referred to a large amount of participants formed by preadolescents (11-13 years-old), adolescents (14-18 years-old), university students (19-35 years-old), and adults (36-55 years-old), higher levels of anti-fat attitudes expressed by adolescents than other age-groups and negative stereotyped traits (e.g., aggressive, lazy, rejected, and bossy) assigned to overweight people emerged. Differently, adults attributed positive characteristics (e.g., happy, courageous, generous, and quiet) to overweight people more frequently than the other age-groups. Furthermore, the group of adolescents judged the representation of overweight people less positively than the other age-groups.

1.1. Purpose of study

The originality of the present study consisted of the analysis of anti-fat attitudes and weight stereotyped beliefs expressed by Sicilian adolescents (involved in agonistic and non-agonistic physical activity) and by their teachers (curricular and physical education) and trainers.

1.2. Participants

The sample of this research was composed by:

-N.128 Sicilian normal-weight adolescents ($M_{age}=15,4$; $sd=1,6$), all with BMI between the 5th and 85th percentiles according to the clinical values reported by Cacciari et al. (2006): this sample was balanced in 64 subjects (23 boys and 41 girls) involved in agonistic physical activities (that is, intensive exercise from three to seven days for a week) and 64 subjects (39 boys and 25 girls) in non-agonistic physical activities (that is, regular exercise for twice a week), recruited both from six Public Secondary Schools and Gym Centers in Catania (East Sicily, Italy); parental consent was obtained for the participation of adolescents to this investigation.

-N.140 Sicilian teachers, mainly normal-weight adults, divided in 70 curricular teachers (24 men and 46 women; $M_{age}=48,3$; $sd=7,03$) and 70 physical education teachers/trainers (48 men and 22 women; $M_{age}=42,3$; $sd=10,6$),

respectively, serving in the same Public Secondary Schools and Gym Centers attended by adolescents involved in this research.

1.3. Measures and procedure

a) Demographic information. All participants completed background questions related to age, body mass index, profession, and frequency and typology of physical activity.

b) The Anti-fat Attitudes (AFAS: $\alpha=.68$) and Dislike of Fat People Scale (DFPS: $\alpha=.73$) were used to analyze the explicit anti-fat prejudice (De Caroli & Sagone, 2013; De Caroli, Sagone, & Licciardello, 2013). Ten items were included in the AFAS: e.g., “Fat people are less sexually attractive than other people”, “Fat people have only themselves to blame for their weight”. Fourteen items were included in the DFPS: e.g., “If I were an employer looking to hire someone, I might avoid hiring a fat person”, “I don’t have many friends who are fat”. Participants responded to each of the 24 items on a 5-point Likert scale ranging from 1 (anchored with “strongly disagree”) to 5 intervals (anchored with “strongly agree”). High mean scores expressed high levels of anti-fat prejudice and dislike toward fat people.

c) The Fat Stereotypes Questionnaire was adopted to study the stereotyped beliefs toward overweight people (De Caroli & Sagone, 2013; De Caroli, Sagone, & Licciardello, 2013): this measure included 11 positive and 11 negative traits referred to psychological and physical features. Participants were asked to attribute, with the forced choice format, each of 22 characteristics to one of two photos of the same target, respectively, in overweight and normal-weight version (female target for female participants and male target for male ones).

d) The semantic differentials were utilized to analyze the representation of the following three concepts: physical self ($\alpha=.85$), overweight people ($\alpha=.88$), and normal-weight people ($\alpha=.86$). These measures consisted of 36 pairs of opposite adjectives for each concept (e.g., weak vs. strong; desirable vs. undesirable), each evaluable on a 7-point Likert scale. High mean scores expressed a positive representation of physical self-image, overweight, and normal-weight people.

1.4. Data analysis

The statistical analysis of data was carried out by means of the SPSS 15, using One-Way ANOVA and Pearson’s linear correlations. Type of group was used as independent variable, while mean scores obtained on AFAS and DFPS, weight stereotypes, and semantic differentials were used as dependent variables. Post-hoc tests were carried out using the Bonferroni’s method to underline the differences among the groups.

2. Results

2.1. Anti-fat attitudes and dislike of fat people

Analyzing the differences among the groups with a 4 (groups of participants) x 2 (AFAS and DFPS) analysis of variance, we noted that adolescents, especially those involved in non-agonistic physical activities, expressed higher levels of AFAS compared to the other groups, while curricular teachers expressed higher levels of DFPS than the others (Table 1). Post-hoc tests with Bonferroni’s method confirmed that, only for the subscale of AFAS, non-agonistic adolescents expressed higher levels of AFAS than agonistic ones (for $p=.006$), curricular teachers (for $p<.001$), and physical education teachers/trainers (for $p<.001$); in addition, curricular teachers and physical education teachers/trainers showed lower levels of AFAS than non-agonistic adolescents (all for $p<.001$).

Table 1. AFAS and DFPS: differences for type of group

Anti-fat attitudes and dislike	Type of groups	Means	Stand. Dev.	$F_{(3,264)}$
AFAS	No-agonistic adolescents	3,03	,62	9,145*
	Agonistic adolescents	2,68	,59	
	Curricular teachers	2,59	,52	
	Physical education teachers/trainers	2,53	,67	
	Total	2,70	,63	
DFPS	No-agonistic adolescents	2,03	,58	2,740**
	Agonistic adolescents	1,92	,44	
	Curricular teachers	2,14	,47	
	Physical education teachers/trainers	1,93	,54	
	Total	2,01	,52	

Note. Levels of significance for * $p < .001$ and ** $p < .05$

2.2. Weight stereotypes

In relation to positive weight stereotypes, statistical analysis indicated that the trait “happy” was mainly attributed to fat people by the group of physical education teachers/trainers ($n=52$) ($\chi^2=13.96$, $p=.003$); the trait “sweet” was assigned to fat people both by agonistic adolescents ($n=54$) and physical education teachers/trainers ($n=51$) ($\chi^2=8.48$, $p=.037$); the trait “intelligent” was attributed to fat people mainly by agonistic adolescents ($n=44$) and to normal-weight people by non-agonistic ones ($n=41$) ($\chi^2=14.07$, $p=.003$); the trait “self-confident” was assigned to normal-weight people mainly by agonistic adolescents ($n=59$) ($\chi^2=8.65$, $p=.034$). Furthermore, in relation to negative weight stereotypes, results showed that the traits “hungry” ($n=52$ agonistic adolescents; $n=50$ non-agonistic ones) ($\chi^2=10.79$, $p=.013$) and “lazy” ($n=55$ agonistic adolescents; $n=57$ non-agonistic ones) ($\chi^2=8.40$, $p=.038$) were mainly attributed by all adolescents to fat people; the trait “rejected” was mainly assigned to fat people by all adolescents ($n=63$ agonistic adolescents; $n=60$ non-agonistic ones) and physical education teachers/trainers ($n=61$) ($\chi^2=9.67$, $p=.021$); the trait “weak” was mainly attributed to fat people by agonistic adolescents ($n=55$) ($\chi^2=16.94$, $p=.001$). No differences for the remaining traits were found.

2.3. Semantic differentials about physical self, overweight, and normal-weight people

A 4 (groups of participants) \times 3 (semantic differentials) analysis of variance indicated that the adolescents, especially those involved in agonistic physical activities, expressed a more positive representation of normal-weight people and physical self than the others (Table 2). No differences for the representation of overweight people were found. Post-hoc tests with Bonferroni’s method confirmed that non-agonistic adolescents judged more positively their physical self than curricular teachers (for $p=.002$) and physical education teachers/trainers valued more positively than curricular ones the same concept (for $p=.007$). Furthermore, non-agonistic adolescents judged more positively the representation of normal-weight people than curricular teachers (for $p=.003$), while agonistic adolescents valued more positively normal-weight people than both curricular teachers (for $p<.001$) and physical education teachers/trainers (for $p=.001$).

2.4. Linear correlations between anti-fat attitudes and overweight people

Statistical analysis carried out by means of Pearson’s linear correlation indicated that the more the participants expressed high levels of AFAS ($r_{(268)}=-.44$, $p<.001$) and DFPS ($r_{(268)}=-.34$, $p<.001$), the less they positively judged the representation of overweight people. This evidence was examined for all groups, revealing the same trend.

Table 2. Semantic differentials: differences for type of group

Semantic Differentials	Type of groups	Means	Stand. Dev.	$F_{(3,264)}$
Physical self	No-agonistic adolescents	5,08	,68	5,28*
	Agonistic adolescents	4,92	,56	
	Curricular teachers	4,69	,61	
	Physical education teachers/trainers	5,04	,62	
	Total	4,93	,64	
Overweight people	No-agonistic adolescents	3,93	,68	2,17 (Ns)
	Agonistic adolescents	4,00	,64	
	Curricular teachers	4,15	,64	
	Physical education teachers/trainers	4,17	,61	
	Total	4,07	,65	
Normal-weight people	No-agonistic adolescents	4,52	,58	10,27**
	Agonistic adolescents	4,67	,55	
	Curricular teachers	4,20	,56	
	Physical education teachers/trainers	4,31	,48	
	Total	4,42	,57	

Note. Levels of significance for * $p=.001$ and ** $p<.001$

4. Conclusion

The goal of this investigation was to examine the differences between adolescents (involved in agonistic and non-agonistic physical activities) and their physical education teachers/trainers in relation to anti-fat attitudes and weight stereotypes. Results pointed out that adolescents involved in non-agonistic physical activities expressed higher levels of anti-fat attitudes than the others and that curricular teachers expressed higher levels of dislike of fat people than the others. In relation to the weight stereotyped beliefs, the negative traits linked to weakness, laziness, hunger, and rejection by others were attributed by adolescents (specifically, by those involved in agonistic physical activities) and physical education teachers/trainers to fat people; likewise, the positive traits connected to happiness, intelligence, and sweetness were assigned to fat people by agonistic adolescents and physical education teachers/trainers. This last datum highlighted a “balanced stereotyped profile” associated to fat people characterized by both negative and positive elements, produced overall by individuals (adolescents and adults) careful to aesthetic, healthy, and physical self-image and involved in the achievement of specific agonistic performances. Additionally, adolescents involved in agonistic physical activities expressed a more positive representation of normal-weight people and of their physical self than the others. Lastly, findings showed that the more the participants expressed high levels of anti-fat attitudes and dislike of fat people, the less they positively judged the representation of overweight people, without differences for the analyzed groups. The idea about the change and controllability of own physical self-image by means of intensive physical activities and caring for own body could be considered as a factor useful to reduce the anti-fat prejudice and the dislike of fat people, as it's probably inferable by the results obtained in this study.

References

- Bell, S., & Morgan, S. (2000). Children's attitudes and behavioral intentions toward a peer presented as obese: Does a medical explanation for the obesity make a difference? *Journal of Pediatric Psychology*, 25, 137-145.
- Brochu, P. M., & Morrison, M. A. (2007). Implicit and explicit prejudice toward overweight and average-weight men and women: Testing their correspondence and relation to behavioral intentions. *The Journal of Social Psychology*, 147, 681-706.
- Cacciari, E., Milani, S., Balsamo, A., Spada E., Bona, G., Cavallo, L., Cerutti, F., Gargantini, L., Greggio, N., Tonini, G., & Cicognani, A. (2006). Italian cross-sectional growth charts for height, weight, and BMI (2 to 20 yr). *Journal of Endocrinological Investigation*, 29, 581-593.
- Carels, R. A., & Musher-Eizenman, D. R. (2010). Individual differences and weight bias: Do people with an anti-fat bias have a pro-thin bias? *Body Image*, 7, 143-148.
- Cogan, J. C., Bhalla, S. K., Sefa-Dedeh, A., & Rothblum, E. D. (1996). A comparison study of United States and African students on perceptions of obesity and thinness. *Journal of Cross-Cultural Psychology*, 27, 98-113.

- Crandall, C. S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology*, 66, 882-894.
- De Caroli, M.E., & Sagone, E. (2013). Anti-fat prejudice and stereotypes in psychology university students. *Procedia – Social and Behavioral Sciences*, 84, 1184-1189.
- De Caroli, M. E., Sagone, E., & Licciardello, O. (2013). Anti-fat prejudice and stereotyped beliefs from infancy to adulthood in Italian context. *World of Psychology*, 75, 231-244.
- Greenleaf, C., Starks, M., Gomez, L., Chambliss, H., & Martin, S. (2004). Weight-related words associated with figure silhouettes. *Body Image*, 1, 373-384.
- Latner, J. D., Stunkard, A. J., & Wilson, T. G. (2005). Stigmatized students: Age, sex, and ethnicity effects in the stigmatization of obesity. *Obesity Research*, 13, 1226-1231.
- Livingston, R.W. (2001). What you see is what you get: Systematic variability in perceptual based social judgment. *Personality and Social Psychology Bulletin*, 27, 1086-1096.
- Morrison, T. G., & O'Connor, W. E. (1999). Psychometric properties of a scale measuring negative attitudes toward overweight individuals. *The Journal of Social Psychology*, 139, 436-445.
- Musher-Eizenman, D. R., Holub, S. C., Miller, A. B., Goldstein, S. E., & Edwards-Leeper, L. (2004). Body size stigmatization in preschool children: the role of control attributions. *Journal of Pediatric Psychology*, 29, 613-620.
- O'Brien, K.S., Hunter, J. A., & Banks, M. (2007). Implicit anti-fat bias in physical educators: physical attributes, ideology and socialization. *International Journal of Obesity*, 31, 308–314.
- Peters, D.M., & Jones, R.J.A. (2010). Future sport, exercise and physical education professionals' perceptions of the physical self of obese children. *Kinesiology*, 42, 36-43.
- Peterson, J.L., Puhl, R. M., & Luedicke, J. (2012a). An experimental assessment of physical educators' expectations and attitudes: The importance of student weight and gender. *Journal of School Health*, 82, 432-440.
- Peterson, J.L., Puhl, R. M., & Luedicke, J. (2012b). An experimental investigation of physical education teachers' and coaches' reactions to weight-based victimization in youth. *Psychology of Sport and Exercise*, 13, 177-185.
- Rand, C. S. W., & Wright, B. A. (2000). Continuity and change in the evaluation of ideal and acceptable body sizes across a wide age span. *International Journal of Eating Disorders*, 28, 90-100.
- Robertson, N., & Vohora, R. (2008). Fitness vs. fatness: Implicit bias towards obesity among fitness professionals and regular exercisers. *Psychology of Sport and Exercise*, 9, 547-557.
- Solbes, I., & Enesco, I. (2010). Explicit and implicit anti-fat attitudes in children and their relationships with their body images. *Obesity Facts*, 3, 23-32.
- Tiggemann, M., & Anesbury, T. (2000). Negative stereotyping of obesity in children: The role of controllability beliefs. *Journal of Applied Social Psychology*, 30, 1977–1993.